B85-PRO GAMER

Motherboard

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Safety information

Electrical safety

- To prevent electrical shock hazard, disconnect the power cable from the electrical outlet before relocating the system.
- When adding or removing devices to or from the system, ensure that the power cables for the devices are unplugged before the signal cables are connected. If possible, disconnect all power cables from the existing system before you add a device.
- Before connecting or removing signal cables from the motherboard, ensure that all power cables are unplugged.
- Seek professional assistance before using an adapter or extension cord. These devices could interrupt the grounding circuit.
- Ensure that your power supply is set to the correct voltage in your area. If you are not sure about the voltage of the electrical outlet you are using, contact your local power company.
- If the power supply is broken, do not try to fix it by yourself. Contact a qualified service technician or your retailer.

Operation safety

- Before installing the motherboard and adding components, carefully read all the manuals that came with the package.
- Before using the product, ensure all cables are correctly connected and the power cables are not damaged. If you detect any damage, contact your dealer immediately.
- To avoid short circuits, keep paper clips, screws, and staples away from connectors, slots, sockets and circuitry.
- Avoid dust, humidity, and temperature extremes. Do not place the product in any area where it may be exposed to moisture.
- Place the product on a stable surface.
- If you encounter technical problems with the product, contact a qualified service technician or your retailer.

About this guide

This user guide contains the information you need when installing and configuring the motherboard.

How this guide is organized

This guide contains the following parts:

- **Chapter 1: Product introduction**

  This chapter describes the features of the motherboard and the new technology it supports. It includes descriptions of the switches, jumpers, and connectors on the motherboard.

- **Chapter 2: BIOS information**

  This chapter discusses changing system settings through the BIOS Setup menus. Detailed descriptions for the BIOS parameters are also provided.

Where to find more information

Refer to the following sources for additional information and for product and software updates.

1. **ASUS websites**

   The ASUS website provides updated information on ASUS hardware and software products. Refer to the ASUS contact information.

2. **Optional documentation**

   Your product package may include optional documentation, such as warranty flyers, that may have been added by your dealer. These documents are not part of the standard package.

Conventions used in this guide

To ensure that you perform certain tasks properly, take note of the following symbols used throughout this manual.

DANGER/WARNING: Information to prevent injury to yourself when completing a task.

CAUTION: Information to prevent damage to the components when completing a task

IMPORTANT: Instructions that you MUST follow to complete a task.

NOTE: Tips and additional information to help you complete a task.

Typography

Bold text	Indicates a menu or an item to select.
Italics	Used to emphasize a word or a phrase.
<Key>	Keys enclosed in the less-than and greater-than sign means that you must press the enclosed key. Example: <Enter> means that you must press the Enter or Return key.
<Key1> + <Key2> + <Key3>	If you must press two or more keys simultaneously, the key names are linked with a plus sign (+).

Package contents

Check your motherboard package for the following items.

Motherboard	ASUS Gaming Motherboard – B85-PRO GAMER
Cables	2 x Serial ATA 6.0 Gb/s cables
Accessories	1 x I/O Shield
Application DVD	Support DVD
Documentation	User Guide

If any of the above items is damaged or missing, contact your retailer.

B85-PRO GAMER specifications summary

CPU	LGA1150 socket for Intel® 4th Generation Core™ i7 / i5 / i3, Pentium®, and Celeron® processors Supports Intel® 22nm CPU Supports Intel® Turbo Boost Technology 2.0* *** The Intel® Turbo Boost Technology 2.0 support depends type of CPU installed in your system.** **** Refer to www.asus.com for Intel® CPU support list.**
Chipset	Intel® B85 Express Chipset
Memory	4 x DIMM, maximum 32 GB, DDR3 1600 / 1333 / 1066 MHz, non-ECC, un-buffered memory Dual-channel memory architecture Supports Intel® Extreme Memory Profile (XMP) *** Due to Intel® chipset limitation, DDR3 1600 MHz and higher memory modules on XMP mode will run at the maximum transfer rate of DDR3 1600 MHz.** **** Hyper DIMM support is subject to the physical characteristics of individual CPUs. Please refer to Memory QVL (Qualified Vendors List) for details.** ***** Refer to www.asus.com for the latest Memory QVL (Qualified Vendors List).**
Graphics	Integrated graphics processor - Intel® HD Graphics support Multi-VGA output support: HDMI / DVI-D / RGB ports - Supports HDMI with maximum resolution of 4096 x 2160 @ 24 MHz or 2560 x 1600 @ 60 Hz - Supports DVI-D with maximum resolution of 1920 x 1200 @ 60 Hz - Supports RGB with maximum resolution of 1920 x 1200 @ 60 Hz - Supports up to three displays simultaneously Supports Intel® InTru™ 3D, Quick Sync Video, Intel® Clear Video HD Technology, and Intel® Insider™ Maximum shared memory of 1024 MB
Multi-GPU Support	Supports AMD® Quad-GPU CrossFireX™ technology
Expansion slots	1 x PCI Express 3.0 / 2.0 x16 slot (gray, at x16) 1 x PCI Express 2.0 x16 slot (black, maximum at x4 mode, compatible with PCIe x1 and x4 devices) 2 x PCI Express 2.0 x1 slots 3 x PCI slots

(continued on the next page)

B85-PRO GAMER specifications summary

Audio	SupremeFX 8-channel High Definition Audio CODEC - Supports jack-detection, multi-streaming and front panel MIC jack-retasking - High quality 115dB SNR stereo playback output Audio Features: - SupremeFX Shielding™ Technology - ELNA premium audio capacitors - Headphone AMP - Sonic Radar - Optical S/PDIF out port at back panel
Storage	Intel® B85 Express Chipset: - 4 x Serial ATA 6.0 Gb/s connectors (gray) - 2 x Serial ATA 3.0 Gb/s connectors (black) Supports Intel® Rapid Start Technology and Intel® Smart Connect Technology* *** These functions work depending on the type of CPU installed.**
LAN	Intel® Gigabit LAN - Best Gaming Ethernet GameFirst II
USB	Intel® B85 Express Chipset - 4 x USB3.0 / 2.0 ports* (2 ports at mid-board, 2 ports at rear panel) - 8 x USB 2.0 ports (4 ports at mid-board, 4 ports at rear panel) *** with ASUS USB 3.0 Boost support**
Rear Panel I/O ports	1 x PS/2 keyboard port (purple) 1 x PS/2 mouse port (green) 1 x optical S/PDIF out 1 x DVI port 1 x HDMI port 1 x D-Sub port 1 x LAN (RJ-45) port 2 x USB 3.0 / 2.0 ports 4 x USB 2.0 / 1.1 ports 8-channel audio I/O ports
Internal connectors	1 x USB 3.0 / 2.0 connector support additional 2 USB 3.0 / 2.0 ports 2 x USB 2.0 / 1.1 connectors support additional 4 USB 2.0 / 1.1 ports 1 x System panel connector 1 x S/PDIF out header 1 x Front panel audio connector (AAFP) 4 x SATA 6.0 Gb/s connectors (gray) 2 x SATA 3.0 Gb/s connectors (black) 1 x 4-pin CPU fan connector 1 x 4-pin CPU optional fan connector 3 x 4-pin Chassis fan connectors 1 x COM header 1 x TPM header 1 x Clear CMOS jumper 1 x 24-pin EATX power connector 1 x 8-pin ATX 12V power connector

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B85-PRO GAMER specifications summary

ASUS gaming features	**Gamer's Guardian** - ESD Guards on LAN, Audio, KBMS, and USB 3.0 / 2.0 ports - DRAM Overcurrent Protection - 10K Black Metallic Capacitors - Stainless Steel Back I/O - ASUS DIGI+ VRM **Performance Optimization** **Dual Intelligent Processors 2 with DIGI+ VRM** **ASUS DIGI+ VRM** - ASUS DIGI+ VRM utility **ASUS EPU** - EPU (Energy Processing Unit) allows you to adjust the CPU, GPU, and the Fan control settings to their power-saving conditions. **ASUS TPU** - Auto Tuning, TurboV, GPU Boost **ASUS Fan Xpert 2** - Fan Auto Tuning function for optimized speed control **USB 3.0 Boost** - Ultra-fast USB 3.0 transmission **EZ DIY** - ASUS AI Suite 3 - Disk Unlocker - AI Charger **Award-winning BIOS Design** - ASUS UEFI BIOS EZ Mode featuring friendly graphics user interface - ASUS Crashfree BIOS 3 - ASUS EZ Flash 2
BIOS features	64 Mb Flash ROM, UEFI AMI BIOS, PnP, DMI v2.0, WfM2.0, SM BIOS v2.7, ACPI v4.0a, Multi-language BIOS, ASUS EZ Flash 2, ASUS CrashFree BIOS 3, My Favorites, Quick Note, Last Modified log, F12 PrintScreen, F3 Shortcut function, and ASUS DRAM SPD (Serial Presence Detect) memory information
Manageability	Wfm 2.0, DMI 2.0, WOL by PME, PXE
Support DVD	Drivers ASUS utilities EZ Update Anti-virus software (OEM version)
Form factor	ATX form factor: 12.0 in. x 9.0 in. (30.5 cm x 22.8 cm)

Specifications are subject to change without notice.